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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/820,788

04/09/2004

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EXAMINER

ONEILL, KARIE AMBER

ART UNIT

PAPER NUMBER

1745

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/02/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/820,788	<b>Applicant(s)</b> LIGEOIS ET AL.	
	<b>Examiner</b> Karie O'Neill	<b>Art Unit</b> 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2006.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 14-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>4-9-04</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Group I-1, Claims 1-13, in the reply filed on December 4, 2006, is acknowledged. Therefore, Claims 14-24 have been withdrawn from consideration.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show any representation of numbers 16, 17 and 18, as described in the specification for Figure 1. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3-8 and 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Ura (EP 1102337 A1).

With regard to Claims 1 and 8, Ura discloses in Figure 1, a rechargeable battery or electrochemical bundle in which an electrode plate group (10) comprise an alternating sequence of at least one positive electrode (1) in which positive electrode material (1a) is attached to a positive electrode current collector (1b) and at least one negative electrode (2) in which negative electrode material (2a) is attached to a negative electrode current collector (2b), with a separator (3) therebetween and spirally wound (paragraph 0016), each electrode comprising a metal strip less than 50µm thick (paragraphs 0022-0023), the strips of the electrodes of each polarity comprising a non-coated lateral band emerging respectively from the opposite ends of said bundle, characterized in that the lateral bands of the strips are bent radially inwards substantially at 90° or perpendicular to their initial direction at a height equal to the distance separating them from the adjacent strips (as can be seen in Figure 1 and paragraph 0025) in order to form a flat plane (11, 12) and continuous base to which said plane connection is welded (paragraph 0026).

With regard to Claim 3, Ura discloses strips having a thickness comprised between 10 $\mu$ m and 15 $\mu$ m (paragraphs 000022-0023).

With regard to Claims 4 and 5, Ura discloses in which said plane connection is laser welded by irradiating a plurality of locations on the surface of the current collecting plates with a laser beam (paragraph 0026).

With regard to Claims 6 and 7, Ura discloses said connection is electrically connected to a current output and said connection constitutes a current output. The current collectors of one or both of the electrodes projects on to the flat plane of the rechargeable battery and helps exhibit stable charging/discharging characteristics (paragraph 0032).

With regard to Claim 12, Ura discloses wherein the lateral bands of the strips are bent radially inwards substantially at 90° or perpendicular to their initial direction (as can be seen in Figure 1 and paragraph 0025), which would be construed as being folded in a concertina manner. In paragraph 0050 of the instant application, examiner interprets the lateral bands being folded in a "concertina" manner to mean the lateral bands are folded approximately perpendicular to the initial direction of the strips.

With regard to Claim 13, Ura discloses wherein said plane connection is a blade or ribs provided on the current collecting plates not covering all of the surface of the plane base formed by said folded lateral bands and where the current collectors (1b, 2b) can be welded together even more reliably (paragraphs 0030-0031).

5. Claims 1, 4, 8 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Cailley et al. (US 3,761,314).

Art Unit: 1745

With regard to Claims 1, 4, 8 and 12, Cailley et al. disclose in column 3 lines 7-26 and Figure 1, an assembly of electrodes and separators obtained by winding a group of superposed negative and positive electrodes and two separator strips. Each electrode comprises a metal carrier sheet carrying the negative and positive active materials having a thickness of 0.6mm to 0.7mm, leaving an edge of the metal carrier bare and projecting from the ends of the assembly obtained after winding the electrodes and separators. The bare portion of the metal carrier sheet is bent in a perpendicular direction to the surface of the electrodes to form a base to which the current collector for each of the electrodes is directly welded (column 4 lines 15-17). In paragraph 0050 of the instant application, examiner interprets the lateral bands being folded in a "concertina" manner to mean the lateral bands are folded approximately perpendicular to the initial direction of the strips.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2 and 9-11 rejected under 35 U.S.C. 103(a) as being unpatentable over Ura (EP 1102337 A1), as applied to Claims 1, 3-8 and 13 and over Cailley et al. (US 3,761,314, as applied to Claims 1, 4, 8 and 12.

With regard to Claims 2 and 9-11, Ura discloses the system for electric coupling of a plane connection to the electrodes of an electrochemical bundle in paragraph 4 above and

Art Unit: 1745

Cailley et al. disclose the system in paragraph 5 above, but neither reference discloses wherein the lateral bands are folded at a height comprised between 3mm and 4mm, said lateral band of the positive electrode has a height comprised between 13mm and 17mm, said lateral band of the negative electrode has a height comprised between 8mm and 12mm, and wherein said plane connection is welded at a distance of at least 3mm from one end of the separator of the electrochemical bundle. However, Ura does disclose the thicknesses and widths of the positive and negative electrode plates (paragraphs 0022 and 0023) and Cailley et al. disclose the thickness of the electrode bearing active material (column 3 lines 61-65). Therefore, it would have been within the skill of the ordinary artisan to adjust the height of the positive and negative electrodes and the distance of the welding, as long as the mechanical strength requirements of the electrochemical bundle can be met. *Discovery of optimum value of a result effective variable in a known process is ordinarily within the skill of the art.* In re Boesch, CCPA 1980, 617 F.2d 272, 205 USPQ 215.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karie O'Neill whose telephone number is (571) 272-8614. The examiner can normally be reached on Monday through Friday from 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Karie O'Neill  
Examiner  
Art Unit 1745

  
DAH-WEIYUAN  
PRIMARY EXAMINER

KAO